Coordinate Noxious Weed Management Plan for Wasatch County

Wasatch County Weed Board Members

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CURRENT REPRESENTATIVES FOR THOSE LISTED ON THE MEMORANDUM OF UNDERSTANDING (SEE APPENDIX J)

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SECTION I

Wasatch County Weed Plan

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Appendix

Introduction

Noxious weeds are present throughout the State of Utah. It is fair to state that every county has a concern with the invasion of noxious weeds within their boundaries. The invasion of noxious weeds has been likened to a raging biological wildfire out of control and spreading rapidly (Dewey, Steven A. Noxious Weeds, A Biological Wildfire).

Public concern is increasing about the existing and potential harmful effects of unmanaged weeds. Unacceptable levels adversely affect crop and forage production, range lands, wildlife habitat, visual quality, recreation opportunities, and land value. Land managers & land owners face the challenge to develop and conduct an effective program for controlling the spread of noxious weeds.

This plan is written to provide a unified effort in developing a public awareness program; a prevention program; and an inventory, mapping, monitoring, and reporting procedure for all parties cooperating in the county.

Wasatch County has major problems with the spread of noxious weeds. The county currently has 24 species of noxious weeds, within the county, of the 28 listed by the Utah State Department of Agriculture. See table 1 for listing of weed acreage.

Table 1

WASATCH COUNTY CLASSIFICATION OF THE STATE WEED LIST

Class A	**Class B**	**Class C**
Blackhenbane	Tall White Top	Bermuda Grass
Leafy Spurge	Dalmation Toadflax	Canada Thistle
Johnson Grass	White Top (Hoary Cress)	Diffuse Knapweed
Spotted Knapweed	Houndstonge	Field Bind Weed
Yellowstar Thistle	Musk Thistle	Medusa Head
Yellow Toadflax	Oxeye Daisy	Purple Loosestrife
Russian Knapweed	Perennial Pepperweed	Quack Grass
Salt Cedar	Poison Hemlock	St. Johnsworts
Dyers Woad	Scotch Thistle	Sulfur Cinquefoil
	Squarrose Knapweed	

Table 1 represents the current application established by the Utah State Department of Agriculture. Noxious weeds occur on both private and public owned lands. Those who are developing or caretaking land whether the land is public or private are responsible to prevent the continued spread of noxious weeds within their ownerships or agreements.

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Goal:

The Goal of the Wasatch County Weed Board is to further our efforts through the county coordinator and weed area CWMA programs to work with the several agencies within the county for the purpose of control and containment of the spread of noxious weeds. Our goal also is to guide and assist the private land owners to control weeds on their lands.

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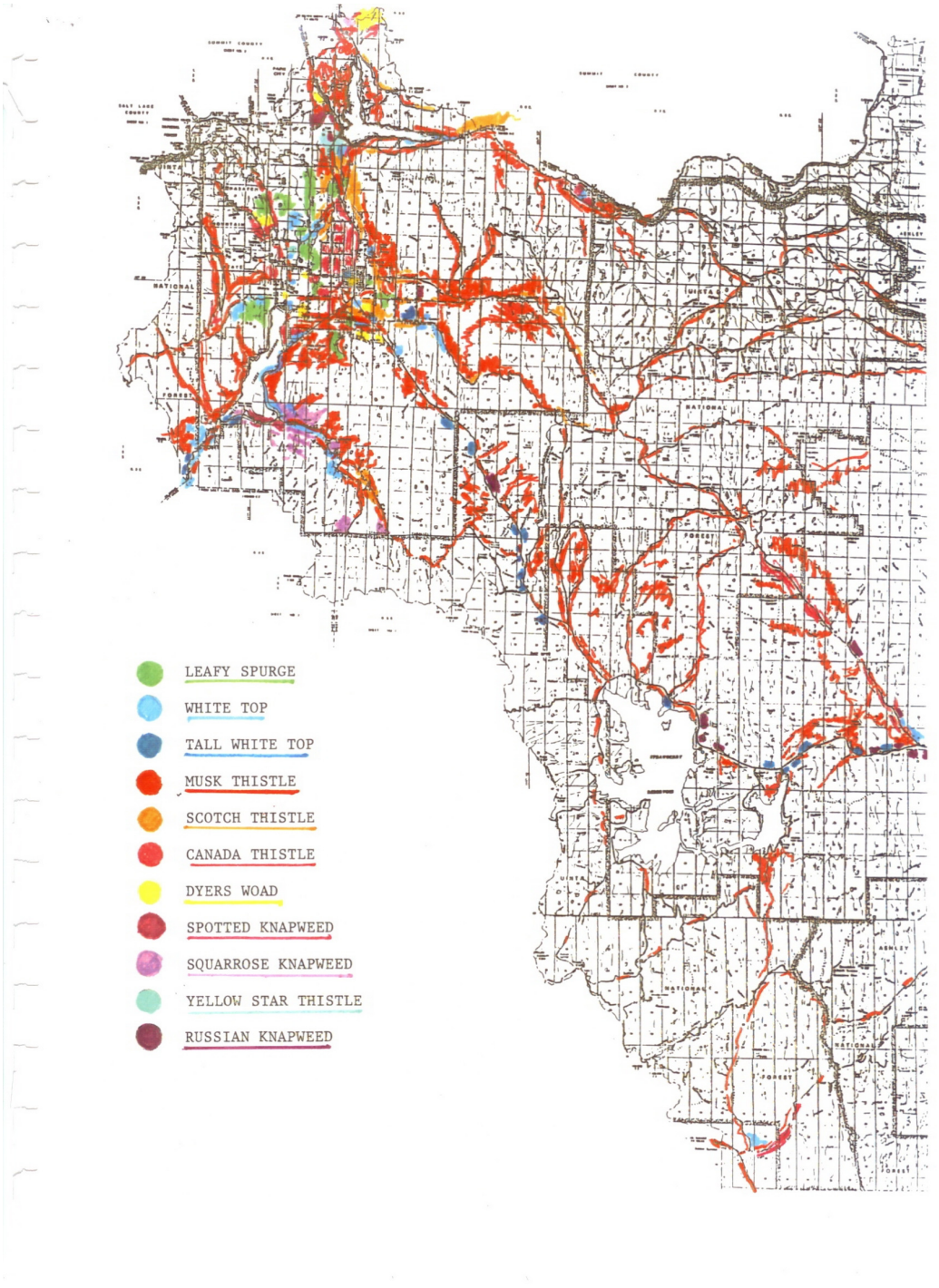
MAP OF COUNTY WEEDS



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SECTION II

SECTION II

Awareness

Awareness of noxious weeds and the problems they cause will help the general public to understand why a long-term program is important for Wasatch County.

The purpose of the Wasatch County Weed Plan is to make people responsible for supporting, implementing, and taking part in a weed management program. By accomplishing this we will be able to preserve and enhance our natural resources in Wasatch County. The first step to accomplish this is to make people aware that a problem exists. By working together as a Weed Board we will increase the awareness of the citizens of Wasatch County that weeds are not only a problem, but that there are resources available to help identify, control, and hopefully eradicate most noxious weeds within the county.

Education

Education concerning the impact of noxious weeds to the flora and fauna of the area is an important facet of any long-term weed management plan developed. All Federal, State, local agency personnel, and private landowners involved in the County are responsible for control and containment of noxious weeds present on their lands. Exotic plants pose a serious threat to crops and native vegetation. The invasive nature of most exotic plants that are considered noxious weeds makes it imperative that agency personnel and private land owners working in the county are familiar with the most important noxious weed

species and the damage they cause. One of the Weed Board goals is to lead an effort to educate the citizens of Wasatch County on the benefits of managing noxious weeds. The Weed Board will work to help land owners improve their knowledge of weed identification, weed control methods, and other information about weeds. They plan to utilize a number of resources to accomplish these goals. These resources should include but not limited to: news releases, power point presentation, schools and other training opportunities, public meetings, brochures, field trips, and cooperation with agencies and other groups within the county.

Training

This weed plan contains information that will aid individuals on how to manage noxious weeds. Training is also available from Utah State University Extension Specialists, County Weed Supervisor and other trained people on the Weed Board. All are available to train and aid in the weed control efforts needed in the county.

SECTION III

SECTION III

Prevention and Early Detection

Prevention, early detection, control and eradication of noxious weed species are the most practical means of weed management. Prevention is best accomplished by ensuring that new weed species seed or vegetative reproductive plant parts are not introduced into an area. Common methods of introduction include:

1. Contaminated seed, feed grain, hay, straw or mulch.
2. Movement of un-cleaned equipment or machinery from noxious weed-contaminated areas to non-contaminated areas. This includes equipment or machinery used for, or by construction, recreation, agriculture, forestry, oil and gas exploration and production, utility companies, mining, and tourism.
3. Animals (domestic and wildlife) that have viable weed seed present in their digestive tract or attached to their hair or wool.
4. People scattering wild bird seed contaminated with noxious weed seeds, noxious weed plant parts with viable seed, or planting noxious weed seed for ornamentals.
5. Allowing noxious weeds to produce seed along waterways.
6. Using gravel, road fill, or top soil contaminated with noxious weed seed or vegetative reproductive plant parts.
7. Noxious weed seeds attaching to clothing of hikers, hunters, fishermen, workers, etc.
8. The prevention of planting noxious weeds as a ornamental or landscaping such as Tamarisk, Murtle Spurge, Russian Olive, Sulfur Cinquifoil, Etc.

Early detection is identifying and documenting newly introduced weed species into an area. Eradication is employing appropriate management methods to totally remove infestations, including reproductive potential of a weed species in an area.

The County Prevention Program will:

A. Develop early detection methods and eradication programs for new invaders. This would include education and awareness programs where visitors and users of the area assist managers in locating and identifying new invasive weed species.

B. Provide follow-up inspection to verify potential of new invasive weed species. Initiate an eradication program if new species are confirmed.

C. Ensure that seed, feed grains, hay, straw or mulch are free of weed reproductive plant parts that are used in the county.

1. **Seed**

   a. Seed to be used for re-vegetation will be certified clean and tested for noxious weed seed at a state seed laboratory.

   b. Develop clauses for re-vegetation plans of disturbed sites that include reseeding with weed-free seed.

2. **Mulches**

   a. Develop contract clauses that do not allow any seed or reproductive plant parts present in mulch.

3. **Certified hay or processed feeds**

   a. Limit all public lands in county to the use certified weed-free feeds.

4. **Landscaping**

a. Prevent the planting and use invasive species for gardening and horticulture purposes.

D. Encourage proper management of livestock used in or trailed through the county to slow noxious weed spread.

1. Use only feeds meeting certification standards, such as, required by USFS to use certified hay on forest lands. Processed feeds inhibit the germination of weed seed and kill the vegetative plant parts. Pelleted feeds also reduce waste lowering the potential spreading of weed-contaminated feed.

2. Livestock (used in cultural management of weeds) should be held in a weed-free environment 96 hours prior to moving them into the county. This allows the animals to clean their digestive tracts of weed seeds.

E. Ensure that equipment or vehicles are free of weed reproductive plant parts prior to movement into and out of the county. Develop standards and follow proper guidelines to prevent the introduction of weeds by equipment or machinery used for or by:

Agriculture/Livestock
Commercial and Private Construction
Fire Suppression Measures
Irrigation Ditch Companies
Mining Quarries and Gravel Pits
Oil and Gas Exploration/Production
Range and Wildlife Improvement Projects
Recreation/Tourism/Hunting/Fishing
Right-of-Way Construction/Maintenance

Logging and Forestry
Utility Construction/Maintenance

1. Develop cooperative weed-prevention programs with the suppliers of sand, gravel, top soil, and other construction materials to ensure that these materials are free of weed seed or reproductive plant parts before quarrying, mining and/or transporting within county. (See Appendix K)
2. Develop stipulations in the contracts that do not allow any weed seed present in the gravel or other material.

F. Educate people to the variety of seed transport methods:
   1. Picking and transporting plants or parts of plants, such as flowers, may spread noxious weed seeds.
   2. Weed seeds may stick to clothing when walking through weed-infested areas.

G. Work with the county and city planning staff and zoning committees to include consideration for noxious weed management when developing or approving subdivision plans, special use permits, or new leases. (See Appendix H, H-1, & H-2)

H. Develop an Integrated Weed Management Program including mechanical, herbicide, biological and revegetation whereby all landowners within the county are working in a cooperative program that prevents weeds from producing seed. (See Appendix J).

I. Develop weed-awareness programs for local residents, fishing and hunting license holders, the visiting public, and staff members of the different county, state, and federal agencies.

J. Through the County Weed Management Area (CWMA) programs every effort available will be used to help prevent the introduction of new weed infestations into the area and for the control of present infestations. (See Appendix J)

K. Fire suppression results in the disturbance of land surface by vehicles, foot traffic, packstock, chemicals, helicopter buckets, bulldozers, fire line explosives, pumps, and hand tools. Fire rehabilitation practices may include seeding the fire lines or burned areas, care needs to be taken that seed mixes are free of noxious weed seed.

L. Planning before fires occur can mitigate the impacts of noxious weeds during and after fire suppression activities.

To minimize weed impacts:

1. Approve noxious weed management actions that utilize the most cost-effective means of providing adequate watershed cover where competition from noxious weeds would render emergency revegetation of fire lines and campsite ineffective. This includes setting standards in the fire plan that only weed-free seed is used for revegetation.

2. Use chemical suppression in conjunction with reseeding only where noxious weed control activities are underway.

3. Where noxious weeds are a problem, but no approved chemical control actions are underway, emphasizing timely seeding of herbaceous cover species that will aggressively occupy disturbed sites until recovery by native plant species occur. Use drilling or other effective techniques to gain a high rate of plant establishment.

M. To prevent the invasion of weeds into burns:

1. Weed prevention will be a consideration in the daily fire-fighting operation.

2. Consider rehabilitation as part of the suppression effort. The planning section should address prevention in the rehabilitation plan.

3. Emphasize light-hand tactics to minimize the amount of soil disturbance.

4. Require the cleaning of equipment used on the fire line and in camp. This includes the development of proper cleaning methods of all equipment to be used on the fires to reduce the possibilities of the spread of weed species. Example: Provide and use pressure cleaning equipment for use on all fire suppression equipment.

5. Avoid storing equipment and resources in weedy areas.

6. Aggressive suppression may result in the least amount of land disturbed by fire line and camps. The cheapest option will probably result in the least disturbance.

7. Use only seed that is certified weed-free.

8. Seed burned areas where there is a question that the native species will recover from the burn.

9. Restore fire lines using the same material that was removed during fire.

10. Replant with suitable grass species such as: wheat & brome grasses immediately after fire disturbance or area where chemical control has removed noxious weeds.

N. Create a County Ordinance that prevents landscaping with invasive (noxious weeds) for ornamental purposes.

SECTION IV

Section IV

A. High Cost of Weeds

Owners and managers need to care about Noxious Weeds, because of the economic affects on all who live in the county.

B. Costs to Taxpayer and Property Owner

Taxpayers are contributing a part of their annual incomes to the cost of controlling weeds. County and federal funds have been used on private, state, and federal lands in several cases in order to help prevent the spread of noxious weeds. Some private land owners have also spent their own funds and time to manage and control noxious weeds.

However there are many land owners who have not made any effort to control weeds within their boundaries. This has a direct economic affect on all other land owners. Other State and Federal Agencies are spending tax dollars to control noxious weeds.

To help better coordinate noxious weed control efforts within the County, the County Weed Board in 2003 created a Coordinated Weed Managements Area, (CWMA) (See Appendix J). This provided the County the opportunity to apply for grant funds to control invasive weeds (noxious weeds).

C. Reduction Property Values

While this may seem a contradiction in Wasatch County where land values are high for home development, the loss of value may be reduced as much as $100 to

$300 per/acre depending on the noxious weed involved. (Goold, Chris; Noxious Weeds, Changing the Face of Southwestern Colorado)

Keep in mind that when you purchase property in Wasatch County with any noxious weed "YOU" inherit the complete responsibility to control these weeds under Utah State Law. (See Appendix B, C & D) This can be very time consuming and costly, with several repeat treatments required each year.

If weed infestations are spread without control or containment large acreages of land used for farming or grazing and recreation will become completely useless for these purposes. This is especially applicable to state and federal land where grazing permits are granted.

D. **Skyrocketing Future Costs**

Making a greater effort to control noxious weeds now will save taxpayers money and efforts later. Delayed efforts to contain or control weeds now will increase costs. Wasatch County now has more than 7,000 acres of weeds such as, musk thistle, scotch thistle, leafy spurge, knapweeds, yellowstar thistle, dyers woad, toadflax, canada thistle, etc. that are costly to control. As these weeds spread the cost will increase at an exponential rate.

E. Impacts to Crops and Livestock Production

Noxious weeds also directly affect crop and livestock production in Wasatch County which in turn has some affect on the everyday consumer.

F. Cost to Crops

As noxious weeds invade small or larger areas of farm lands, they steal precious water and nutrients from the crops, such as hay and grains. (The knapweeds

actually releases an enzyme or toxin into the soil that will inhibit the growth of any plant near it). As a result, crop production is reduced sometimes radically ranging from a loss of 20 to 30% in production. (Goold, Chris; Noxious Weeds : Changing the Face of Southwestern Colorado). Other weeds such as leafy spurge have the same effect on farm crops and other range land plants.

Farmers as well as other land owners in Wasatch County have been losing crop production mainly to scotch thistle and musk thistle. With the invasion of several species of knapweed, leafy spurge and other threatening noxious weeds they are certain to lose more production. If weeds in farm crops are not soon contained the sales and value of these crops will lose value due to restriction imposed by the State Department of Agriculture on the Sale and movement of cropland products. This is already the case in some counties in Idaho which will not let seed infested hay be moved off the property where it is raised. We may need to ask for the State to restrict sale of infested crops from Wasatch County.
There is now a greater effort to have weed free crops that are sold and moved from place to place. This effort will increase more as noxious weeds become a greater nuisance. Currently the U.S. Forest Service-the Bureau of Land Management requires weed free hay and straw for those users who take these products into the National Forest and Bureau of Land Management ground.

G. Cost to Livestock

Ranchers and farmers who rely on private, public and state lands within the county are now facing a serious problem with noxious weeds. Noxious weeds on rangelands displace native grasses and forbs that reduce forage available for livestock and big game animals. This in turn reduces the carrying capacity of range lands, and increases the potential for soil erosion. As weeds continue to

spread farmers and ranchers will be forced to seek other grazing lands for livestock use. In Wasatch County some rangeland acres have reduced capacity because of the amount of scotch thistle and musk thistle now occupying their sites. It may be comparable to those of Western Colorado, where it is estimated many private pastures have had production reduced as much as 50%.

Russian, Squarrose, and Spotted Knapweeds have now affected over 1,000 acres within the County. This land is almost totally covered with knapweed which has no value for grazing for either wildlife or livestock.

Leafy Spurge has increased dramatically in the County. One stem of leafy spurge per square foot reduces cattle grazing by 50% according to some studies. Two stems per foot can reduce grazing capacity up to 90% for livestock and wildlife.

To date, there have been no studies to determine the total loss of forage \ production for Wasatch County. But, with 7000 acres or more of noxious weeds now within the county forage production, depending on location and density of the weeds, may be severely reduced possibly up to 50% or more.

Noxious weeds can also be poisonous to livestock. Leafy spurge can be poisonous to cattle and may cause blindness. Yellowstar thistle and Russian knapweed are toxic to horses. Hounds tongue is poisonous to cattle and horses.

H. Cost to Wildlife

Big game, elk and deer are also affected by noxious weeds. It is suggested that noxious weeds could influence wildlife by displacing forage. This certainly may

be the case on deer and elk winter rangeland sites, such as the land near the Wallsburg turn where both deer and elk find winter forage.

I. Cost to Recreation

Noxious weeds could potentially affect visitors who come to fish and hunt in the county or who visit the several state parks in Wasatch County. Musk thistle and scotch thistle along streams, rivers, and lake shores are so thick in some areas that it may affect those who try to fish these streams. Water districts must take action to reduce the impact that weeds are having in the areas for which they have management responsibility. State Park and Federal Land users will continue to see a loss of aesthetic values as more weeds invade recreation sites.

J. Overall Impacts

Perhaps the greatest potential impacts of the continued spread of noxious weeds is to the biodiversity of the native plant communities. The loss of native plant communities to noxious weeds is a serious matter, one that we cannot take lightly. With the loss of native plants to introduced species which have little or no natural controls, the impacts on the biodiversity will be long lasting. Certainly one cannot begin to understand this impact until they look at such areas in North Dakota where native plant communities are now almost total leafy spurge communities. This has cost the state of North Dakota up to $87 million in lost revenues. Not counting the aesthetic costs to the landscape.

SECTION V

Section V

A. Management

Management of noxious weeds is much like modern wildfire management. Early detection, rapid response (EDRR). It is important that there is a balance of all four elements for effective management. To date, Wasatch County has done a fair job in detection and suppression, and we are now increasing our efforts in prevention and re-vegetation. Budgeting for wildfire management is spread as follows: prevention- 15%, detection-23%, suppression-59%, revegetation-3%. It is suggested that a similar budget be established for the management of a noxious weed program. (Dewey, Steven; Noxious Weeds; A Biological Wildfire). In order to accomplish above management strategy more than just the county must be players in the control of noxious weeds.

B. Agency Coordination and Cooperation

This is a vital link in management and control of noxious weeds within the county, and throughout the state for that matter. There is no possible way management of noxious weeds will ever happen without agency coordination and cooperation. The job of doing so is just too big and too complicated. Planning for budgets, educating the public, mapping of new weed locations, is a job that everyone needs to be involved in. Wasatch County Coordinated Weed Management Area (CWMA) established for the County, is the main tool to obtain cooperation and coordination of the noxious weed program among the land management agencies & private land owners. (See Appendix J and CWMA

bylaws) The CWMA has resulted in increased sharing of expertise, information, resources, and provide a process to improve the efficiency and effectiveness of the noxious weed program in Wasatch County.

C. Budget

As indicated earlier in this report, Wasatch County in now spending over $200,000 each year for detection and suppression of noxious weeds. In addition, for the past 5 years we have spent an additional $60,000 to $100,000 in grant monies which includes matching funds which can be labor and equipment provided under the CWMA Program. The grant funds come from federal, private & state funding. However, there has been very little funding for prevention by any of the agencies. If Wasatch County is going to get on top of the weed problem, there is a need to increase their efforts in the prevention phase. The Forest Service, State Parks & Recreation, Division of Wildlife, Utah Department of Transportation are also providing funding for the control of noxious weeds, on their lands. County budgets should be coordinated with funds from other state and federal agencies to accomplish the total job of weed management. Future year budgets for all agencies should reflect a needed increase in prevention, as well as maintain the effort in detection and suppression for all agencies. Sites where major eradication projects have been completed or that are in progress should be re-vegetated to help prevent the return of the noxious weeds.

D. **Prevention**

It is important that an increased effort be made in the county in this area, as identified in the budget section. Education concerning the impact that noxious weeds can have on land they invade is a primary importance. Public support for increased awareness needs to come from all parts of county government and those involved in management of noxious weeds. This job can no longer be left to one individual in the county, but must come from all agencies within the county. With

an increased effort by members of the weed board to educate the government officials and the public, the support will come.

Increased effort to teach noxious weed prevention needs to be taught in grade schools by such programs as the Woodsy Owl provided by the Forest Service. Efforts also need to go forth to let businesses and other interest know of the high cost of noxious weed invasions.

E. **Public Involvement**

Through an increased education program it is hopeful that the public will become more aware of the noxious weed problem and its costs to the environment. As we educate our public in the prevention, it is hopeful they will be able to identify and report to local government officials, weed board members and others who are responsible concerning weed infestation. Key public that needs to be heard from are: recreationalists, those who are out riding, walking, riding mountain bikes, motor bikes, fishermen and hunters, who cover almost every inch of the land. They are an excellent source of information for the spread of noxious weeds on public and larger tracts of private lands.

F. **Suppression (containment and control)**

Suppression suggests that the weeds are done away with or that they are held to a level that provide little or no threat to the environment. As the county approaches the mountainous task of managing the 7,000 acres of weeds it now has, there is a need to decide what level of suppression can be given and how much money can be used for that effort. Currently the weed board members agree that there is a need to plan for control of leafy spurge, white top, dyers woad, spotted knapweed, yellowstar thistle and russian knapweed, and the toadflaxes.

Because of the large acreage involved with musk thistle, scotch thistle, and Squarrose Knapweed containment is the goal. Species such as Canada Thistle, quack grass, and field bindweed are important but management of these species cannot be given priority with the other species listed above. The last two listed weeds are native species and with proper management of the land, they are manageable. There are several steps that can be taken to manage and suppress weeds. The current program within the county has relied on spraying with some use of biological control which has not been all that successful. The county needs to rely on a multi effort for suppression of noxious weeds. It is important to point out that it cannot be done by the county alone. Every land owner be it private or public, must do their part to hold the line on the spread of noxious weeds. This can be done by several methods such as: spraying, pulling, grubbing, mowing, biological. Regardless what method is used by the landowner, the county and other land owners must do all they can in preventing noxious weeds from going to seed for the current growing season but for several years there after. This is necessary because many of these weeds have seeds that are viable for 8 to 50 years once they are present in the soil. Several spread by underground roots that are hard to kill with only one effort, so the job must go on each year. No longer can property owners neglect this important task. If they do, they will soon find their lands useless for grazing or other values. In addition, these lands become a public nuisance to their neighbors and the community as a whole. Those who are developing lands for sale etc. too, must also take part or be limited as to how the land may be used, until they have the weed problem under management with the growth now occurring in the county. Land development is the most viable way the noxious weeds are being spread. Therefore, developers must submit a development plan to the county planner to prevent the spread of noxious weeds.

G. **Possible Methods of Control**

As a county weed board we strongly urge the control of weeds whenever and wherever possible. Where land is being developed, developers and landowners must pay close attention to the spread of noxious weeds. It is the legal requirement of the property owner, whether it is an individual, a group, or a government agency to control the weeds on the land that they own or administer.

There are a number of methods available to control weeds. However, the best method of control is to prevent the infestation in the first place:

1. **Wet Land Weed Control:**

Wet Land Weed Control is made difficult due to EPA regulation's and accessability to infestations.

Aquatic weeds block water flow in canals and ditches causing serious problems. It restricts delivery of irrigation water to farms, plugs off drains causing flooding problems and causes higher water levels, putting pressure on the canal banks.

The Wasatch County Noxious Weed Plan is only concerned with controlling noxious and new invading weed species.

2. **Biological Control:**

Biological control is the ideal program for a wet land infestation and/or lands near water where herbicide use is restricted. Introducing natural enemies to these

noxious weed species can slow down their growth, eliminate many viable seeds, and help destroy their massive root systems. Biological control alone will not eliminate the problem, but it does slow it down and combined with other control methods such as mechanical, cultural and chemical, it can be very effective. We have introduced a Rinocillis Beetle in the County which is helping to control the spread of musk thistle. This is helping some to reduce the spread of this species but is not completely successful. We have also introduced two other species of beetle's, Apthona Flava & Copper Leafy Spurge Flea Beetle to help control the spread of leafy spurge. Today we have not found great success of biological control in leafy spurge, but it is hopeful that we will be successful in this effort.

3. **Mechanical Methods :**

Mechanical methods are frequently used for dredging or ditching. Weeds are a major cause of silting and bank deterioration. Harvesting has been used back east, but it is time consuming, laborious and very expensive. Disposal of the harvested weeds can also be a problem. Since these methods generally provide only short term results, they need to be employed on a continual basis

4. **Cultural Methods:**

Planting competitive plants will help, but make sure that what you plant will not be destroyed while treating noxious weeds. This is especially true with chemical treatment. Noxious broad leaf plants can effectively be treated in grass land with

a selective herbicide such as 2, 4-D. Planting a competitive broad leaf in a noxious infestation, would be a waste of time and money. Make sure the problem is solved before introducing plants that are susceptible to the same treatment as the noxious weeds.

Treated areas, where native species will not grow back in, should be replanted to prevent erosion, and create competition against new invasions.

Many times draining an infested area or water way is used for treatment purposes, but if not employed with proper planning, this technique can distract from the recreational and aesthetic value of water, destroy fish and wildlife habitat and lead to new problems more serious than the original infestation.

5. **Chemical Control:**

Until recently, the major factor limiting the use of chemicals has been the availability of effective herbicides approved for use in aquatic and wetland situations.

Some forms of 2, 4-D can be used up to the waters edge. The seeds produced along a canal or ditch bank can travel in irrigation water to infest crop lands all along it's course.

If you use 2,4-D in wetland areas be sure to read and follow the recommended procedures on the label, Rodeo is the only chemical that is approved for all aquatic sites. Rodeo controls emerged and ditch bank weeds which grow in and around water. It can be used in all bodies of water which may contain flowing or non-flowing water.

This includes irrigation and drainage canals, and ditches, ponds, lakes, rivers and others. There is no restriction on the use of water after application for recreation or domestic purposes. Rodeo is practically non-toxic to mammals, birds and fish. It dilutes in water easily, since it is completely water soluble. It is readily deactivated by soil particles and bio-degraded by micro-organisms present in soil and water. Irrigation water containing Rodeo, from spraying according to the label, will not injure crops.

The only restrictions for Rodeo is that it should not be applied to tide water areas, or crop levee's when flood water is present or with in one half mile up stream of potable water intakes.

When spraying a bank you should spray traveling up steam and only over spray one foot onto the water. Don't spray across the canal, travel one side at a time. Rodeo is effective against many types of weeds and brush, but read and follow the label before treatment. Make sure the weed you target is susceptible and that you use the recommended rate. Ground water contamination is also a major concern.

Chemical Treatment is probably our most effective method of noxious weed control, but in all treatment/areas our environment must come first.

In most cases, eliminating noxious weeds, which are not native to our natural setting, will benefit our environment, but when ground water contamination is possible, chemical treatment is not an option. Other methods or combination of methods such as mechanical, cultural, or biological must be used.

The following is a list of the major weeds that cause problems in Wasatch County and a list of possible herbicides that can help control the weed. For more information about weed identification and control contact the local Utah State University Extension Office or the County Weed Board Members.

Leafy Spurge

A perennial, up to 3 feet tall; reproduces by vigorous rootstalks and seed. Leaves area alternate, narrow, 1 to 4 inches long. Stems are thickly clustered. Flowers are yellowish-green, small, arranged in numerous small clusters and subtended by paired heart-shaped yellow-green bracts. Roots are brown, containing numerous pink buds which may produce new shoots or roots. The entire plant contains a milky juice. Seeds are oblong, grayish to purple, contained in a 3-celled capsule, each cell containing a single seed. Possible herbicides for control: Plateau, Banvel, Tordon, and Landmaster. Edict 2SC, Veteran 720, and Weedmaster.

White Top (Hoary-Cress)

A deep-rooted perennial up to 2 feet tall, reproducing from root segments and seeds. Leaves are blue-green in color, and lance-shaped. Lower leaves are stalked; upper leaves have two lobes clasping the stem. Plants have many white flowers with four petals, giving the plant a white, flat-topped appearance. Heart-shaped seed capsules contain two reddish-brown seeds separated by a narrow partition. Plants emerge in very early spring and have bloomed and set seed by midsummer. Possible herbicides for control: 2,4-D, Patriot, Escort or Ally.

Diffuse Knapweed

Diffuse knapweed was introduced from Eurasia and now represents a threat to pastures and rangelands. Diffuse can be a annual or a short lived perennial, 1 to 2 feet tall, stems are rough to the touch. Leaves are pinnately divided; the reduced leaves of the inflorescence are mostly entire. Flowering heads are numerous and narrow. Flowers are white to rose or

sometimes purplish. The tips of the bracts are tipped with a slender spine. The flowering period is July to September. Some herbicides that can be used to control is Tordon 22K, Curtail, and Milestone.

Squarrose Knapweed

A long-lived taprooted perennial typically reaching heights of 12 to 18 inches. Stems are highly branched, with deeply dissected lower leaves and bract-like upper leaves. Flower heads are relatively small, containing four to eight rose or pink colored flowers, usually developing no more than three to four seeds per head. Bract tips are recurved or spreading, with the terminal spine longer than lateral spines on each bract. It is often confused with diffuse knapweed, but differs principally in the fact that it is a true perennial, and bracts are recurved. Unlike diffuse knapweed, seed heads are highly deciduous, falling off the stems soon after seeds mature. Squarrose knapweed is a competitive rangeland weed. Possible herbicides for control: Tordon, 2,4-D, and Banvel.

Spotted Knapweed

Spotted knapweed is a biennial or usually short-lived perennial with a stout taproot. It can have one or more stems, branched one to 3 feet tall. Basal leaves up to 6 inches long, blades narrowly elliptic to oblanceolate, entire to pinnately parted; principal stem leaves pinnately divided. Flowering heads are solitary at end of branches; involucre bracts stiff and tipped with a dark comblike fringe. The ray flowers are pinkish-purple or rarely cream-colored. Fruits are about 1/8 inch long, tipped with a tuft of persistent bristles. The flowering period extends from June to October. Possible herbicides for control are: Tordon, 2, 4-D Banvel, Milestone, Redeem, and Curtail.

Russian Knapweed

Russian knapweed is widely established in the western United States. This species forms

colonies in cultivated fields, orchards, pastures and roadsides. Russian knapweed plants spread by black, deep growing roots which penetrate to a depth of over 8 feet. Emerging plants leaves are toothed and covered with fine hair, giving them a blue-green color. Flowers of this perennial are pinkish-purple. Bracts have pointed papery tips. Stems are erect, openly branched, 18 to 36 inches tall. Lower leaves are deeply lobed, 2 to 4 inches long; upper leaves entire or serrate, narrow to a sessile base. Cone-shaped flowering heads are 1/4 to 1/2inch in diameter, solitary at the tip of leafy branchlet. Possible herbicides for control are: Roundup, Tordon, Curtail, Milestone, Redeem, Veteran 720, & Patriot.

Canada Thistle

Canada thistle is a colony-forming perennial that forms deep and extensive horizontal roots. Stems are 1 to 4 feet tall, ridged, branching above. Leaves are alternate, lacking petioles, oblong or lance-shaped, divided into spiny-tipped irregular lobes. Flowers are unisexual, on separate plants; flowers purple (occasionally white) in heads ½ to ¾ inch in diameter; involucre bracts are spineless. Fruits are about 1/8 inch long, somewhat flattened, brownish, with a tuft of hairs at the tip. Early spring growth appears as rosettes with spiny-tipped wavy leaves. Possible herbicides for control are: 2,4-D, Banvel, Tordon, Escort, Curtail, Plateau, Edict 25c, Milestone, Patriot, Redeem, Ally, and Telar.

Musk Thistle

Musk thistle is a biennial or sometimes a winter annual, which grows up to 6 feet tall. Leaves are dark green with a light green midrib, deeply lobed, and spiny marginate. Leaves extend onto the stem giving a winged appearance, flower heads are terminal, solitary, 1 ½ to 3 inches in diameter, and usually bent over. Flowers are deep rose, violet or purple, occasionally white; they are subtended by broad, spine-tipped bracts. Fruits are 3/16 inch long, shiny, yellowish-brown with a plume of white hair-like fibers. Possible herbicides for control are: Weedmaster (2,4-D, and Banvel), Curtail, Tordon, Milestone, Patriot, Plateau, Escort, Veteran

720, and Telar. They can also be removed with a shovel or hoe by digging below the root crown or pulling prior to flowering.

Quack Grass

Quack grass is an aggressive perennial grass reproducing by seed. Quack grass reduces productivity in crops, rangeland and pasture. Quack grass spreads by a shallow mass of long, slender, branching rhizomes. Rhizomes are usually yellowish-white, sharp-pointed, somewhat fleshy. They are able to penetrate hard soils or even tubers and roots of other plants. Stems are erect and usually 1 to 3 feet tall. Leaf blades are 1/4 to 1/2inch wide, flat, pointed and have small auricles (ear-like appendages) at the junction of blade and sheath. Leaf sheaths and the upper surface of leaf blades may be thinly covered with soft hairs. Spikelets are arranged in two long rows, borne flatwise to the stem. Florets are awnless, or with short straight awns. Possible herbicides for control are: Roundup, Eptam, and Fusilade.

Johnson Grass

Johnson Grass was introduced from the Mediterranean region as a hay or forage crop. Johnson Grass is a perennial plant that spread by seed or rhizomes. The stems are erect and generally solid with prominent nodes. It will grow from 2 to 8 feet tall. Leaf blades are flat with conspicuous midveins and are often up to 1 inch wide with terminal fringe of fine hairs. Mature inflorescence are large and open and shiny with reddish to purple spikelets. Some herbicides for control are Round-up, Ultra 4S, Select 2E and Post Plus 1 EC.

Field Bindweed

Field bindweed is a perennial from an extensive root system, often climbing or forming dense tangled mats. Stems are prostrate, 1 to 4 feet long. Leaves alternate, more or less arrowhead-shaped, pointed or blunt lobes at the base. The flowers are bell-or trumpet-shaped, white to pinkish, approximately 1 inch in diameter with 2 small bracts located 1 inch below the

flower. Fruit is a small, round capsule, usually 4-seeded. It is a difficult weed to eradicate because of the long, deep taproot which can penetrate the soil to a depth of 10 feet and which gives rise to numerous long lateral roots. Seeds remain viable for up to 50 years. The flowering period is from late June until frost in the fall. Possible chemical control products are: Banvel, Tordon, Roundup, Patriot, Escort, Veteran 720, Edict 2SC, and 2,4-D.

Yellowstar Thistle

Yellow star thistle is an annual, 2 to 3 feet tall, has rigid branching, winged stems covered with a cottony pubescence. Basal leaves are deeply lobed while upper leaves are entire and sharply pointed. Flower heads are yellow, located singly on ends of branches, and armed with sharp straw-colored thorns up to ¾ inch long. Fruits from ray flowers are dark-colored without bristles, while fruits from disk flowers are lighter and have a tuft of white bristles. Possible chemical control products are: Tordon, Curtail, Milestone, Redeem, Escort, Clopyralis, and Banvel.

Scotch Thistle

Scotch thistle is a biennial that grows up to 12 feet tall. Stems have broad, spiny wings. Leaves are large, spiny, and covered with fine dense hair, giving a grayish appearance. Upper leaves are alternate, coarsely lobed; basal leaves may be up to 2 feet long and 1 foot wide. Flower heads are numerous, 1 to 2 inches in diameter, bracts spine-tipped. Flowers are violet to reddish. Fruits are about 3/16 inch long, tipped with slender bristles. Possible chemical control products include: Tordon, Banvel, Telar, Patriot, 2.4-D (Weed Master). They can also be removed by digging below the root crown or pulling prior to flowering.

Purple Loosestrife

Purple Loosestrife was introduced as an ornamental species in aquatic sites which soon took over stream banks and shorelines of shallow ponds. Purple Loosestrife is a rhizomatous perennial with erect stems, often growing 6 to 8 feet tall usually found in moist or marshy spots. Leaves are simple, entire, and opposite or whorled. The flowers are rose-purple and have 5 to 7 petals. Purple Loosestrife flowers from June to September. Some herbicides for control are Rodeo for wetlands and Round-up for uplands.

Dyers Woad

Dyers woad is a winter annual, biennial or short lived perennial; 12 to 48 inches in height. Leaves of dyer's woad are alternate, simple, petiolate, bluish-green with a whitish nerve on the upper surface of the blade. The inflorescence has a flat top, petals yellow; fruit a pod is black or purplish brown and one-celled, containing a single seed. It has a thick tap root which may exceed 5 feet in depth. Once leaves are removed mechanically, plants will regenerate from roots. Possible chemical control products: 2,4-D, Escort, and Telar. They can also be removed by pulling or grubbing, but the entire root stock needs to be removed.

Tall White Top (Perennial Pepperweed)

This plant is a perennial, 1 to over 3 feet in height. The leaves are lanceolate, bright green to gray-green basal leaves larger than upper leaves. Flowers are white, in dense clusters near ends of branches, very small; seeds 2 per fruit, rounded, flattened, slightly hairy, about 1/16 inch long, and reddish-brown. Deep-seated rootstocks make this weed difficult to control. Flowering occurs from early summer to fall. Possible chemical control products: Landmaster, Telar, Patriot, and Escort.

Dalmation Toadflax

Dalmatian toadflax is a perennial, up to 3 feet tall, reproducing by seed and underground root stalks. Leaves are dense, alternate, entire, upper leaves are conspicuously broad-based. Flowers are borne in axils of upper leaves and are 2-lipped, ¾ to 1 ½ inches long, with a long spur, yellow with an orange, bearded throat. Fruit a 2-celled capsule with many irregularly angled seeds. Possible chemical control product: Tordon 22K, Patriot, Veteran 720, Plateau, and Edict 2SC.

Yellow Toadflax

Yellow toadflax is perennial, 1 to 2 feet tall, reproducing by seed and underground root stocks. Leaves are pale green, numerous, narrow, pointed at both ends, 2 or more inches long. Flowers are 1 inch long with bearded, orange throat. Fruit is round, ¼ inch in diameter, brown, 2 celled, with many seeds. Seeds are dark brown to black, 1/12 inch in diameter, flattened with a papery circular wing. Possible chemical Control Products: Roundup, Patriot or Tordon 22K.

Houndstongue

Houndstongue is a biennial growing 1 to 4 feet tall and reproducing by seed. Leaves are alternate, 1 to 12 inches long, 1 to 3 inches wide, rough, hairy, and lacking teeth or lobes. Flowers are reddish-purple and terminal. The fruit is composed of four prickly nutlets each about 1/3 inch long. Hounds tongue is toxic, containing pyrolizidine alkaloids, causing liver cells to stop reproducing. Horses may be especially affected when confined in a small area infested with Hounds tongue and lacking desirable forage. Possible chemical control products: 2,4-D, Patriot, and Banrvel. They may also be removed by pulling, digging or grubbing below the root crown prior to flowering.

Medusahead

Medusahead was introduced from Eurasia and is predominant on millions of acres Semi-arid rangeland in the Pacific Northwest. Medusahead is an aggressive winter annual 6 to 24 inches tall. Leaf blades are generally 1/8 inch wide or less. The mature awns are twisted, 1 to 4 inches long, stiff, and barbed. Sometimes it can be confused with foxtail barley or squirreltail. Medusahead flowering and seed formation occurs in May through June. Herbicides for control are Glyphosate, Paraquet, and Atrazine.

Black Henbane

Black Henbane is a native of Europe and was brought to the United States as an ornamentel. Black Henbane is used as medicines at controlled dosages, but is considered poisonous to human and livestock. Black Henbane may be annual or biennial and 1 to 3 feet tall. Leaves are coarsely toothed and foliage has a foul odor. Flowers on long racemes in axils of upper leaves are brownish yellow with a purple center and purple veins. Fruits are approximately 1 inch long. Herbicides for control are Escort, 2,4-D, Tordon 22K, Vanquish/Clarity, and Patriot.

Oxeye Daisy

Oxeye Daisy is a native of Eurasia and was introduced in the 19th century to North America. Oxeye Daisy was used as an ornamental plant, but escaped cultivation and was distributed across the U.S. Oxeye Daisy is an erect rhizomatous perennial 10 to 24 inches tall. Leaves progressively reduce in size upward on stem. Basal and lower stem leaves are oblanceolate to narrowly obovate, 2 to 5 inches long including the petiole, margin crenate to lobed or parted. Upper leaves become sessile and merely toothed. Flowering heads are solitary at the ends of branches, about 1 ½ inches long. Fruits have 10 ribs. Herbicides for control are 2,4-D, Dicamba, Plateau, Tordon 22K, Redeem R & P and Milestone.

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Poison Hemlock

Poison Hemlock is a native to Europe. This plant was brought over and used to kill the great philosopher Socrates. Poison Hemlock is a biennial that can grow 6 to 8 feet tall. In the first year, plants form a small seedling that resembles wild carrot. Plants usually bolt in the second year and produce numerous clusters of white flowers. Plants flower from April through July, and seeds begin in July and continue into winter. Most seeds mature before dispersal and can germinate immediately if environmental conditions are favourable, but some seeds remain dormant. Chemicals used for control are Picloram, dicamba, 2, 4-D and Glyphosate.

Salt Cedar (Tamarisk)

Salt Cedar is a native to Eurasia and now is wide spread through United States. Wasatch County is starting to be infested with Salt Cedar around Strawberry and home owners using it as an ornamental or landscaping. A mature Salt Cedar plant can transpire at least 200 gallons of water a day and will often dry up ponds and streams. Salt Cedar is a deciduous or evergreen shrub or small tree, 5 to 20 feet tall. Bark on saplings and stems are reddish-brown. Leaves are small and scale-like, on highly-branched slender stems. Flowers are pink to white, 5-petalled. Some herbicide for control is Garlon 3A or Garlon 4 for cut stump treatment and Plateau for foliage application.

St. Johnswort

St. Johnswort is a native of Europe and is frequently found in the Pacific Northwest, on sandy or gravelly soils. This weed contains a toxic substance which affects white-haired animals. An affected animal will rarely die but will often lose weight and develop a skin irritation when exposed to strong sunlight. St. Johnswort is a perennial reproducing by seed or short runners. The stems are 1 to 3 feet high with numerous branches, rust colored, woody at the base. Leaves are opposite, not over 1 in long, covered with transparent dots. Flowers are ¾ inch in diameter,

bright yellow, with 5 separate pedals. Chemical for control is Escort, 2,4-D, Tordon 22K and Patriot.

Sulfer Cinquefoil

Sulfur Cinquefoil is a native to Erasia. It likes to grow in grasslands and dry forest zones. This plant does not do well in shady areas. Sulfur Cinquefoil is a long lived perennial, reproducing by seed plant upper and lower surfaces, yellowish green. Stems are 12 to 28 inches tall, branched near top, covered with hairs. There are numerous leaves on the stem. Flowers are ½ to 1 inch in diameter. May bloom late may throughout summer and roots are woody. Herbicides for control is Picloram, Clopyralid, 2,4-D, Glyphosate, Tordon 22K, and Milestone.

SECTION VI

Section VI

Authority and Enforcement of Noxious Weed Management Plan

I. Authority

The Utah Noxious Weed Act (Title 4, Chapter 17, Rule R68-09) provides for the control and management of noxious weeds in Utah. Private property owners, municipalities, and state agencies are subject to the provision of the Utah Noxious Weed Act. Federal agencies are subject to the provisions of the Federal Noxious Weed Act of 1974 (P.O. 93-629) as amended in 1990 (Section 15, Management of Undesirable Plants on Federal Lands). Under the 1990 amendment to the Federal Noxious Weed Act, federal agencies are directed to enter into agreements with appropriate state and local agencies to coordinate the management of noxious weeds. All land owners within the boundaries of Wasatch County are also subject to Wasatch County policies and ordinances applicable, as provided for by State Law concerning noxious weeds. (See Appendix B, D, D-1, H, H-1, H-2, I, & K)

II. Enforcement

Enforcement of the Wasatch County Weed Management Plan will be carried out through the procedures established in the Utah Noxious Weed Act. Under the Utah Noxious Weed Act, County Weed Control Boards, County Weed Supervisors and Field Representatives of the Utah Department of Agriculture

Division of Plant Industry have authority for the enforcement of the provisions of the act. The specific duties of each of these parties will be as outlined in the Handbook for County Weed Boards.

Before May 1, each year the county weed control board is to post a general notice of the noxious weeds within the county in at least three public places in the county and publish the notice in a newspaper or other publication of general circulation on at least three occasions. (See Appendix B)

The Utah Noxious Weed Act requires that all land owners or people in possession of property be responsible for the control of noxious weeds on their property. Specific provisions of this law call for the control and prevention of the spread of noxious weeds by property owners or people in possession of property.

The Wasatch County Weed Control Board expects that all landowners and land managers take prompt action to control and prevent the spread of the noxious weeds located on their property. This action will be required two or more times each year as long as the infestation exists. Section 4-17-7(2), (3) of the Utah Weed Act states:

> (2) If the County weed control board determines that particular property within the county requires prompt and definite attention to prevent or control noxious weeds, it shall serve the owner or the person in possession

of the property, personally or by certified mail, a notice specifying when and what action should be taken on the property. Methods of prevention or control may include definite systems of tillage, cropping, use of chemicals, and use of livestock.

(3) An owner or person in possession of property who fails to take measures to prevent and control the spread of noxious weeds in the served notice, is maintaining a public nuisance.

Any property owner who fails to make efforts in controlling noxious weeds on their property will be served this written notice declaring their property a public nuisance as outlined above. If further action is needed, then the procedures for taking corrective action on that property will be carried out as outlined in section 4-17-8.5 of the Utah Noxious Weed Act.

Section 4-17-8 (1), (2) of the Utah Noxious Weed Act, states:

(1) If the owner or person in possession of property fails to take action to control or prevent the spread of noxious weeds within five working days after they declare the property a public nuisance, the county may, after reasonable notification, enter the property without the consent of the owner or the person in possession, and perform any work necessary, consistent with sound weed prevention and control practices, to control the weeds or declare the weed a public nuisance & handled as a misdemeanor." (See appendix D, D-1 and I)

(2) Any expense incurred by the county in controlling the noxious weeds is paid by the property owner of record or the person in possession of the property, as the case may be, within 90 days after receipt of the charges incurred by the county. If not paid within 90 days after notice of the charges, the charges become a lien against the property and are collectible by the county treasurer at the time general property taxes are collected. (See Appendix d & d-1).

This procedure is consistant with County Ordinance Section 12.02.01. Failure to control noxious weeds is a public nuisance. In Wasatch County, maintaining a public nuisance is also a class C misdemeanor and shall be enforced as such. (See Appendix I).

Any property owner who is served with a notice to control noxious weeds may appeal the notice through the procedures outlined in section 4-17-8.5 of the Utah Noxious Weed Act. Hearings before county weed board - appeal of decision to Board of County Council - Judicial Review:

Any person served with notice to control noxious weeds may request a hearing to appeal the terms of the notice before the county weed control board within 10 days of receipt of such notice and may appeal the decision of the county weed control board to the board of county Council.

Any person served with notice to control noxious weeds who has had a hearing before both the county weed control board and the board of county Council may further appeal the decision of the board of county Council by filing written notice of appeal with court of competent jurisdiction.

SECTION VII

Section VII

Pesticide Use

Any person who applies any type of pesticide product in Utah is subject to the requirements of the Utah Agricultural Code, specifically the Utah Pesticide Control Act. The application of any pesticide, including herbicides as part of weed control efforts in Wasatch County will be made in compliance with the Federal, Insecticide, Fungicide, and Rodenticide Act as amended and the Utah Pesticide Control Act as amended (Title 4, Chapter 14, Rule 68-07). All pesticide applicators will be properly licensed as required by the Utah Pesticide Control Act. Each application of any pesticide product will be recorded according to the pesticide record keeping requirement as specified in R68-7-8 of the Utah Pesticide Control Act.

All pesticide applicators will be properly trained on the use of pesticide products. This training is to include calibration, label reading, personal protective equipment, and safety.

Record Keeping

Purpose:

The primary goal of our record keeping system is to collect information in order to document the progress and success of noxious weed control in Wasatch County. Our record keeping system will track noxious weed management methods, record necessary environmental information at management sites, trace the use of funds and manpower,

provide information to validate and build the program, and document the progress and success of noxious weed control.

Inventory:

At the first of each new year, an inventory will be conducted by the Weed Supervisor to determine the amount of herbicide left over from the previous year. The Weed Supervisor will then determine the herbicide needs for the upcoming season. An invitation for bids will be sent out to herbicide suppliers. Copies of returned bids will be kept on file for five years. (See Appendix A, A-1)

General Notice:

A general notice to control noxious weeds will be posted each spring before May 1st in three public places and in the newspaper on three occasions. This notice will be filed as part of the requirements of section 4-17-7 of the Utah Noxious Weed Act. (See Appendix B)

Infestation report:

All new infestations of noxious weeds found in the county will be recorded on a Noxious Weed Infestation report form. (See Appendix C) This form will identify the location of the infestation and identify the property owner or manager of the property. This form will monitor the control efforts of each particular noxious weed infestation. Each attempt to

notify the property owner of their weed problem will be recorded on this form. The first attempt to notify individuals will be through a personal visit by the Weed Supervisor. Subsequent attempts may be made through phone calls. The last resort to notify property owners/managers will be through the mail.

Weed infestations that do not get prompt and appropriate control measures will be turned over to the county Weed Board for a decision on what to do next. If deemed necessary by the Wasatch County Weed Board, the weed infestation could be determined a public nuisance and the property owner or manager will be served an individual notice to control their weed infestation. Whenever an infestation is to be served to an individual notice, it will be the weed supervisors policy to take a picture of that infestation. The picture will be attached to the back of the infestation form.

Individual Notice: (See Appendix C)

> The Individual Notice to Control Noxious Weeds form will be used by the Wasatch County Weed Supervisor to notify property owners who have not cooperated with efforts to control noxious weeds on their property. This notice will formally serve the property owners, declaring their property a public nuisance (See Appendix D). At this time it is determined by the Weed Board to do the work to control the noxious weeds a notification of noxious weed lien assessment will be issued (See Appendix D-1). Also in Wasatch County, once the property has been declared a public nuisance it becomes a Class C Misdemeanor. This

becomes subject to a citation to the offending parties. The citation is issued by the Wasatch County Sheriff's Department. (See Appendix I)

Work Order Statement & Spray Agreement:

A billing record will be kept for all jobs that the county weed department completes. This record will be maintained and filed by the county Weed Supervisor and the Public Works Secretary. (See Appendix E-1 & E-2)

Daily Work Log:

A daily work log will be kept by the County Weed Supervisor and any other county weed worker. This log will record information pertaining to the daily activities of weed workers. This log will be maintained in a plain notebook.

Daily Noxious Weed Control Record:

Each work day the weed supervisor will maintain a Daily Noxious Weed Control Record. (See Appendix F) This record will identify the following:

Locations of weeds treated	Dates and time of treatments applied
Chemicals used	EPA registration numbers
Rate applied	Total amount of chemical used
Purpose of chemical application	Rate charged
Acres treated	Billing number of each job done

This record will maintain in compliance with the Federal, Insecticide, Fungicide, and Rodenticide Act as amended and the Utah Pesticide Control Act as seeded

(Title 4, Chapter 14, Rule 68-07). The information maintained in this record will prove to be invaluable in comparing, and monitoring the progress of county weed control efforts as well as maintaining compliance with federal and state regulations. This record will be maintained by those who apply the various control measures.

Annual Progress Report:

An annual progress report will be generated each year by tallying the information recorded in the Daily Noxious Weed Record. (See Appendix F) This report will show the annual progress on the weed infestation found in Wasatch County. (See Appendix G)

The only records that will be recorded on a daily basis will be the infestation report, the daily log and the daily noxious weed control report. The only other form that is actually a record is the annual progress report. The remaining forms are not so much records, as they are tools to notify property owners of weed problems and the billing for performing weed control measures.